

Date: Wed, 6 Jul 94 04:30:16 PDT  
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>  
Errors-To: Ham-Ant-Errors@UCSD.Edu  
Reply-To: Ham-Ant@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Ant Digest V94 #212  
To: Ham-Ant

Ham-Ant Digest                      Wed, 6 Jul 94                      Volume 94 : Issue 212

Today's Topics:

CHEAP 2m Beam antenna  
    Coax  
    Commercial 33 cm Yagi?  
    extending "ladder line"  
GAP Eagle Antenna -- Anyone Have Experiences?  
    Large HF DX antenna  
    modifying RS fm beam for 2METERS  
    More on the QST compact loop antenna  
    NEC  
    Request help identifying this antenna.  
    Where is KLM - Need parts for KT-34XA

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>  
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

-----  
Date: 5 Jul 1994 22:06:51 GMT  
From: ihnp4.ucsd.edu!sdd.hp.com!nigel.msen.com!heifetz.msen.com!  
koechig@network.ucsd.edu  
Subject: CHEAP 2m Beam antenna  
To: ham-ant@ucsd.edu

darrylb@delphi.com wrote:  
: Ed Bathgate <ed@fore.com> writes:  
:  
: >Well... I was at my local Radio Shack talking with the manager about  
: >the inverted V antenna, when he mentioned about somebody having a modification  
: >for RS fm yagi antenna. Quite simple modifications, remove 1 element entirely,

: >shorten remaining elements, shift position of a couple and attach coax to  
: >driven element and use non metallic pole for vertical mounting. It provided  
: >an estimated 10 of gain with a very sharp pattern, for less than \$20.00  
: >  
: >Any Interest?  
: >  
: >He had only 1 copy, but I am sure he will let me borrow it and copy and post.  
:  
:  
: Yes, I'm interested. KD4CSW

Me Too N8PKA

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Date: Tue, 5 Jul 1994 20:24:48 GMT  
From: ihnp4.ucsd.edu!library.ucla.edu!europa.eng.gtefsd.com!  
newsxfer.itd.umich.edu!zip.eecs.umich.edu!panix!ddsw1!indep1!  
clifto@network.ucsd.edu  
Subject: Coax  
To: ham-ant@ucsd.edu

I just happened to be looking at an old AES catalog and stumbled on the  
page showing Belden coax. I noticed that the specs for 9251 (8A/U) and  
8267 (213/U) as shown are nearly identical, down to noncontaminating jacket  
and all. (Center conductor, #13 stranded copper; doesn't sound like 213  
to me.) Am I missing something here?

--

	Optimists say, "The glass is half full."
Cliff Sharp	Pessimists say, "It's half empty."
WA9PDM	We realists say, "Before I decide,
clifto@indep1.chi.il.us	tell me what's in the glass."

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Date: 6 Jul 1994 01:22:02 GMT  
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!math.ohio-state.edu!  
news.acns.nwu.edu!solo.eecs.nwu.edu!hpa@network.ucsd.edu  
Subject: Commercial 33 cm Yagi?  
To: ham-ant@ucsd.edu

Hi there,  
do anyone of you know where I could find a reasonably sized 33 cm  
(902-928 MHz) premanufactured Yagi antenna? I unfortunately have no  
capability to make my own. With "reasonably sized" I mean something  
with a single-digit gain over a dipole.

All the catalogues I have looked in list only 2 m, 1.25 m, 70 cm and 23 cm.

Thanks in advance,

/hpa

--

INTERNET: hpa@nwu.edu FINGER/TALK: hpa@ahab.eecs.nwu.edu  
IBM MAIL: I0050052 at IBMMAIL HAM RADIO: N9ITP or SM4TKN  
FIDONET: 1:115/511 or 1:115/512 STORMNET: 181:294/101 Allah'u'abha  
Amiculae, deliciae, num is sum qui mentiar tibi?

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Date: Tue, 5 Jul 1994 15:23:48 GMT  
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!darwin.sura.net!  
news.Vanderbilt.Edu!news@network.ucsd.edu  
Subject: extending "ladder line"  
To: ham-ant@ucsd.edu

and PFEIFFEM@ctrvx1.Vanderbilt.Edu (PFEIFFEM\_1) comments...

Just splice in the new length of twin lead and let the tuner do the work. BTW, you can add strength to the ladder line by running 1/4" rope through the holes and tying it off.

Good DX,

K5WIM

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Date: Wed, 6 Jul 1994 01:03:14 GMT  
From: netcomsv!netcom.com!herbr@decwrl.dec.com  
Subject: GAP Eagle Antenna -- Anyone Have Experiences?  
To: ham-ant@ucsd.edu

Kim,

Thanks for your post. Although I haven't worked with the GAP Antenna I have been considering it for use at my QTH. I am trying to get back on HF, after several years of QRT. I have antenna restrictions, so I am looking for something I can put up that won't draw attention, but I want it to get out!

I was considering the GAP and the R7 vertical.

I'll be interested in any other postings from anyone with additional thoughts to share.

73,

Herb - kg6ok

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herbr@netcom.com

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Date: 5 Jul 1994 18:47:10 -0500  
From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!math.ohio-state.edu!  
hobbes.physics.uiowa.edu!news.uiowa.edu!blue.weeg.uiowa.edu!blue.weeg.uiowa.edu!  
not-for-mail@network.ucsd.edu  
Subject: Large HF DX antenna  
To: ham-ant@ucsd.edu

I'm interested in suggestions for an efficient and inexpensive DX HF antenna. I'd prefer an all-bander. I work 80 m and 10 m from a Kenwood TS-440S (has internal tuner)

I am on a farm, with tall trees, barns, windmill, etc and can build a very large antenna. I'd like it to be efficient (so I can jsut use my 100 wat transmitter) and inexpensive.

I have the ARRL antenna book, so suggestions supporting particular designs there I can look up.

Any problem areas are especailly welcome.

Thanks

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Jim - Farmer - Iowa City, IA,

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Date: Tue, 5 Jul 1994 22:24:24 GMT  
From: ihnp4.ucsd.edu!swrinde!gatech!news-feed-1.peachnet.edu!news.duke.edu!  
godot.cc.duq.edu!nntp.club.cc.cmu.edu!cantaloupe.srv.cs.cmu.edu!dolphin!  
ed@network.ucsd.edu  
Subject: modifying RS fm beam for 2METERS  
To: ham-ant@ucsd.edu

I shortened some of the details so it would not be as lengthy. Ed N3SD0

Happy building.

Ed N3SD0

\*\* I built one and discovered some length differences in the elements.  
\*\* My opinion, build it to the longer lengths N3KMJ specs, and try tweaking for  
\*\* best results, then if it doesnt work try trimming to N3SD0 shorter lengths.  
\*\* Post your results or email Ed@fore.com and I will compile the results.  
\*\* Perhaps a NEC expert will model this and give us some tips!  
\*\* I bet this will make a long thread for weeks to come... {:~)

Ed N3SD0

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5 ELEMENT 2 METER BEAM FOR UNDER \$20?!?

\*\* THESE PLANS WERE TYPED IN AND SHORTENED BY ED N3SD0. \*\*

Converting the Radio Shack FM stereo yagi cat # 15-1636) for 2 meter use.  
by Eric Allison N3KMJ. Tell your friends you got the info from N3KMJ and  
PGH HILLTOPPERS.

Materials List:

drill, 5/8" & 1/16" bits  
cutters/tin snips  
assorted screwdrivers & wrenches...  
qty 6 5/8" long sheet metal screws  
2 pieces 4" heavy stranded wire (16-18 ga)  
misc wood mast or pvc (needed for vert mount only)  
sealant for connections...

INSTRUCTIONS:

STEP 1:

Drill holes in boom for vertical mounting using 5/8" bit, same position  
as existing holes on sides, but on top/bottom for mounting vertically.  
(for ssb use skip this step)

STEP 2:

Unfold antenna, & snap elements in place. Using cutters remove all crossing  
wires from elements with plastic insulators. (cut as close to rivet as possible)

STEP 3:

Completely cut off element between director 2 & 3 (see diagram) as close to  
boom as possible. You can completely remove element & bracket by drilling

out main rivet to boom. (save this for scrap box future use) {:--)

STEP 4:

Drill 1/16" holes at base of each element, just below the rivets on directors 1,2 and driven element. Install sheet metal screws 1/2 way. These are the plastic mounted ones. Be careful to make sure element will snap in place with screw installed.

STEP 5:

Wrap bare stranded wire around left screw on director 1, to right screw on director 1, tighten screws & cut off excess.

(shorting elements together, left to right to make dipole director)  
Then do the same for director 2.

STEP 6:

(ORIGINAL PLANS, LONG LENGTHS N3KMJ)

\*\* NOTE \*\* THESE LENGTHS DID NOT WORK FOR ME, SEE BELOW.

Cut elements to length.

REFLECTOR: 57 1/2"

DRIVEN ELE: 38 1/2"

DIRECTOR 1: 37 1/4"

DIRECTOR 2: 36"

DIRECTOR 3: 34 1/2"

=====

SHORTER LENGTHS BY N3SDO - DETERMINED EXPERIMENTALLY BY SWR & PATTERN TESTS

REFLECTOR: 43" (ALSO CONSIDER TRIMMING REF TO 40")

DRIVEN ELE: 35.5" (SWR ABOUT 1.5:1 MIN AT 146 MHZ)

DIRECTOR 1: 34.5"

DIRECTOR 2: 34.2"

DIRECTOR 3: 33.75"

(N3SDO PLANS TO CONTINUE EXPERIMENTING AND WILL POST RESULTS)

FIELD STRENGTH TESTS SHOW FORWARD LOBE FS10 WITH BACK LOBE UNDER FS1,  
BUT STILL THERE. NO SIDE LOBES DETECTABLE.

. < FS 10

. .

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.      .
.      .
.      .
.      .
| <VERTICAL MOUNTING
.      .
.      < FS .75

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FOR FS REFERENCE:END FED 1/2 WAVE DIPOLE APPROX FS 1.75 - 2

#### N3SDO CRUDE FIELD TESTS:

ANTENNA ON WOODEN POLE, CENTER OF ELEMENTS ABOUT 7' FROM SOGGY GROUND.  
 FIELD STRENGTH METER (HOMEBREW) COAX FED BY BEAM.  
 SIGNAL SOURCE XYL WITH 1.5W HT HELD OVER HEAD @ 20' FROM BEAM.  
 ED N3SDO {:-)

MEASUREMENTS OF A FACTORY MADE 3 ELEMENT BEAM ASSEMBLED FROM BOX OF PARTS  
 MFG UNKNOWN, INCLUDED FOR ELEMENT LENGTH REFERENCES. N3SDO

REFLECTOR: 40.25"  
 DRIVEN ELE: 36" (INCLUDED MATCHING SHUNT & COAX CABLE BALUN 32" LONG)  
 DIRECTOR 1: 35 1/8"

ED N3SDO {:-)

#### STEP 7:

Assemble antenna as per instructions for mounting hardware, end caps ...  
 Attach to pvc pipe if vert. Attach coax, to driven element. strip about 3"  
 of coax shield, attach center & shield to driven element screws and tighten.  
 Caution, don't allow shield to short to mast.  
 Use silicone or sim to weatherproof.

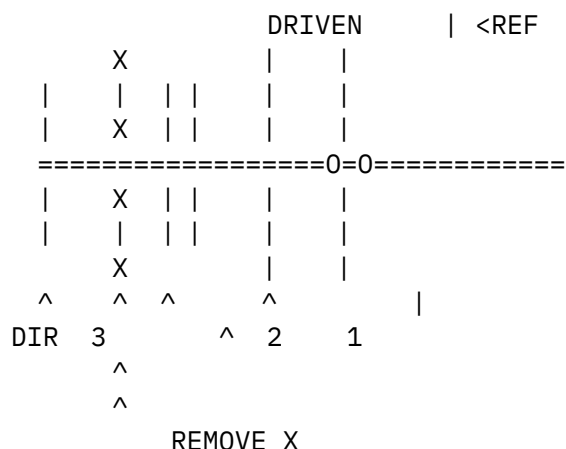
\*\* NOTE THAT THIS DOES NOT SPEC ANY TYPE OF BALUN OR IMPEDANCE MATCHING  
 \*\* NETWORK. I HAVE FOUND THAT COAX PLACEMENT IS A BIT CRITICAL, BUT NOT  
 \*\* BAD. I TAPED THE COAX TO THE MAST AND DID NOT NOTICE SWR FLUCTUATIONS  
 \*\* WHEN I MOVED THE CABLE AROUND. PERHAPS A BALUN MIGHT IMPROVE SWR FURTHER.  
 N3SDO

#### Conclusion;

This antenna is mainly for repeater work 145-147. With 3 of these antennas in use  
 the unscientific HILLTOPPER tests show an approx 8-10 db forward gain with about

2db's off the back. The radiation pattern is very sharp, with fairly weak side lobes. These babies aim like a rifle!, so be prepared for some rotor tweaking. ENJOY!

DIAGRAM:



COMPOSED BY N3KMJ, TRANSCRIBED & SHORTENED.

\*\* ANYTHING UNCLEAR IN THE INSTRUCTIONS, PLEASE CONTACT ED@FORE.COM  
 TEXT IN UPPER CASE ADDED BY ED N3SDO - AKA ED@FORE.COM

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 Date: Tue, 5 Jul 1994 17:00:59 GMT  
 From: ihnp4.ucsd.edu!swrinde!howland.reston.ans.net!EU.net!uknet!nessie!  
 david@network.ucsd.edu  
 Subject: More on the QST compact loop antenna  
 To: ham-ant@ucsd.edu

Scott Sminkey - Sustaining Eng Group (sas@opus.xyplex.com) wrote:  
 : I was completely unable to get the loop to tune anywhere in the 20m  
 : band. There was not even a hint of a peak in forward power nor a  
 : dip in reflected power. I suspect that the variable capacitor I am  
 : using simply has too much residual capacitance and that capacitance  
 : exceeds the amount needed to tune the loop on 20m. This theory would

If you have a general coverage receiver it should be really easy  
 to verify whether the loop is resonating with your capacitor. In  
 my experience you can hear a marked increase in receiver noise  
 as the loop comes to resonance. With a bit of effort you should



be able to track the resonant frequency by tuning your receiver as you decrease the capacitance to a minimum. My guess is you'll find the maximum resonant frequency is below 20m.

Though I haven't tried it, I expect that a signal generator and a diode detector could also be used to verify the tuning range.

-David G0JVV

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Date: Tue, 5 Jul 1994 15:53:30 GMT  
From: ihnp4.ucsd.edu!library.ucla.edu!csulb.edu!csus.edu!netcom.com!  
rander@network.ucsd.edu  
Subject: NEC  
To: ham-ant@ucsd.edu

In article 1z5@crash.cts.com, marsh@crash.cts.com (Thomas Baden) writes:  
.>Hello! I am a relatively new ham (ke6cbr), and would like to do some  
.>antenna design. I picked up MININEC3, and tried to run some figures  
.>through it, but my designs had too many elements for it to handle. What  
.>I would like to find is the maxiNEC program. I understand it's up to  
.>about version four, and that it's written in Fortran. This is not a  
.>problem. Any help finding the entire NEC program (or even NECPAR.INC)  
.>would be terrific.  
.>  
.>73  
.>Thomas (ke6cbr)

NEC2 (both source code and compiled versions) for PC's, Sun's, Mac's  
and IBM RS's plus related utilities can be found at the following location:

ftp.netcom.com in /pub/rander/NEC

Happy simulating es 73's,

Ray WB6TPU

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This response does not represent the official position of, or statement  
by, Sun Microsystems Incorporated. The above data is provided for informational  
purposes only. It is supplied without warranty of any kind.  
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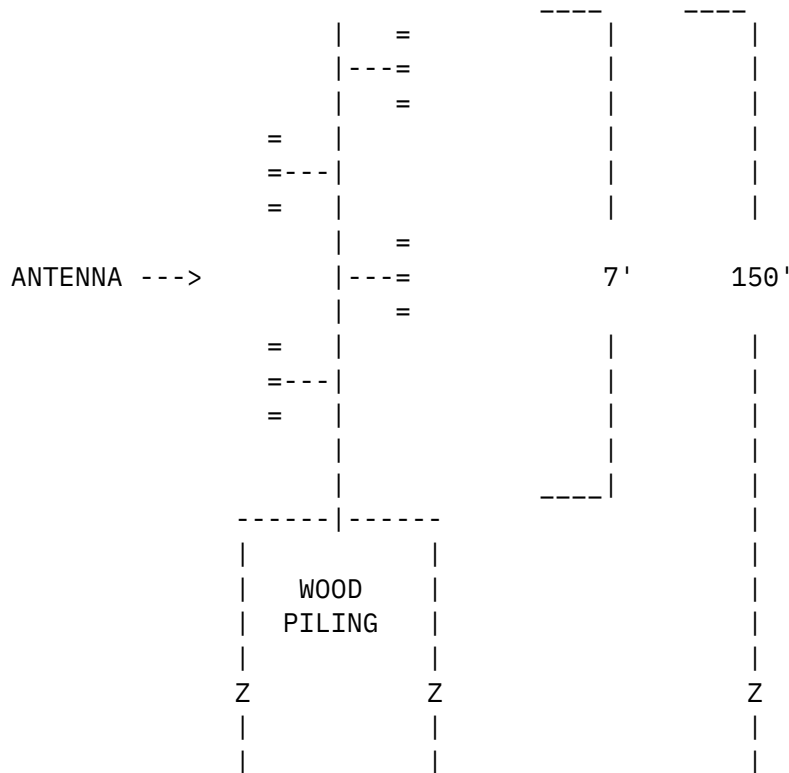
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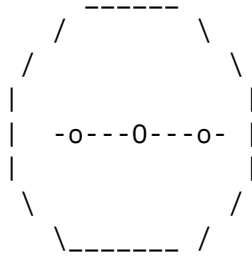
Raymond E. Anderson WB6TPU  
 Signal Integrity Engineer  
 Sun Microsystems  
 2550 Garcia Ave. MS MIL04-16  
 Mountain View, CA 94043-1100  
  
 (408) 276-5224  
 (408) 956-0492 fax  
 raymond.anderson@Sun.Com

-----  
 Date: 5 Jul 1994 09:41:22 -0500  
 From: ihnp4.ucsd.edu!agate!howland.reston.ans.net!math.ohio-state.edu!  
 darwin.sura.net!nntp.st.usm.edu!whale.st.usm.edu!not-for-mail@network.ucsd.edu  
 Subject: Request help identifying this antenna.  
 To: ham-ant@ucsd.edu

What, if anything, can be known about an antenna taking the following  
 basic form?



Note that the antenna is constructed in a single plane.  
 Viewed from above, it would look something like this....



Is it possible to tell if it is a receiving antenna?

Is it possible to determine the direction of the incoming signal if I know what direction the antenna is facing?

Do we have any idea what its range of frequency might be?

Is there anything that this design tells us about its use?

Thanks for any help you might be able to offer.

WMW (wwatkins@whale.st.usm.edu)

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Date: 5 Jul 1994 09:07:43 -0700  
From: ihnp4.ucsd.edu!usc!nic-nac.CSU.net!charnel.ecst.csuchico.edu!  
yeshua.marcam.com!news.kei.com!ssd.intel.com!chnews!ornews.intel.com!  
ornews.intel.com!not-for-mail@network.ucsd.edu  
Subject: Where is KLM - Need parts for KT-34XA  
To: ham-ant@ucsd.edu

In article <dgfCs637A.894@netcom.com> dgf@netcom.com (David Feldman) writes:  
>Need spare parts for KT-34XA - can't find KLM - help!!!!!!

KLM antenna in Seattle, WA = 206-794-2923

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zardo@ornews.intel.com WA7LDV

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End of Ham-Ant Digest V94 #212  
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